

L 10230-66

ACC NR: AP6002411

SOURCE CODE: UR/0105/64/000/010/0087/0088

AUTHOR: Greben', I. I.; Iyerusalimov, M. Ye.; Kondra, B. N.; Nesterenko, A. D.;  
Pavlov, V. M.; Postnikov, I. M.; Kholskiy, V. G.; Chuzhenko, I. M.

ORG: none

TITLE: Professor I. K. Fedchenko (60th birthday and 35th anniversary of his scientific and pedagogical activity)

SOURCE: Elektrichestvo, no. 10, 1964, 87-88

TOPIC TAGS: electric engineering personnel, electric engineering

ABSTRACT: September 26, 1964 was the 60th birthday of Ivan Kirilovich Fedchenko, Doctor of Technical Sciences and Professor in Charge of the Chair "Tekhnika vy'sokikh napryazheniy" (High-voltage engineering) at the Kiev, Order of Lenin, Polytechnical Institute. His entire career was spent at this institute. He successfully defended his dissertation in 1936 and became a reader (docent). He has published more than 60 scientific papers. Between 1934 and 1940 he set up production of domestic high-voltage capacitors. Much of his activity has been devoted to capacitor problems. After the war he worked on the problem of earth conductivity and use of earth as a return in power transmission. Fedchenko took his doctorate in 1951 defending a dissertation on earth as a conductor, which was

Card 1/2

UDC: 621.3.027.3

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later published as the monograph "Teoriya zemlyanogo provoda" (Theory of earth as a conductor). He has worked extensively on insulations. His most recent work is on electric arcs. For his achievements Fedchenko holds two orders of the Red Banner of Labor, in addition to several military awards. Orig. art. has: 1 figure. [JPRS]

SUB CODE: 09 / SUBM DATE: none

Card 2/2

✓  
JERUSALIMSKAYA, L.A.; KAZANIN, V.I.

Intravital diagnosis of primary pericardial tumors. Terap. arkh.  
35 no.9:106-109 S'63 (MIRA 17:4)

1. Iz kliniki gospi'tal'noy terapii ( zav. - prof. A.A. Demin)  
Novosibirskogo meditsinskogo instituta i prozektury 29-y bol'-  
nitsy Novosibirska (glavnyy vrach I.F. Duman).

JYERUSALIMSKAY, M.P.

Using hydrophobic lime in laying pavements. Avt. dor. 28  
no.9:17-19 S '65. (MIRA 18:10)

GREBEN', I.I.; IYERUSALIMOV, M.Ye.; KONDRA, B.N.; NESTERENKO, A.D.;  
PAVLOV, V.M.; POSTNIKOV, I.M.; KHOLMSKIY, V.G.; CHIZHENKO, I.M.

Ivan Kirillovich Fedchenko, 1904-; on his 60th birthday and the  
35th anniversary of his theoretical and educational work.  
Elektrichestvo no.10:87-88 0 '64. (MIRA 17:12)

Analysis of fermentation gases. N. D. Erusallimskii and M. N. Bekhtereva. *Zashchita* 23: 5-1450-5..... (1936).—A procedure and app. (illustrated) for detn. of butyl alc.-acetone fermentation gases, based on the methods of Rudolfs and Heikelehan (C. A. 24, 907) and Peterson and Fred (C. A. 26, 3070), are described. Chas. Blanc

157 AND 158 GROUPS

PROCESSES AND PROPERTIES INDEX

Ch

7

Analysis of volatile (organic) acids in a mixture. M. N. Bekhtereva and N. D. Ierusalimskii. *Zhurnal Khim. Fiz.* 6, 312-10 (1937).—The methods used in the analysis of the mixed acids, obtained in the  $\text{BuOH-Me}_2\text{CO}$  fermentation, were rechecked with prep. mixts. of corresponding pure acids in various concns. For a mixt. of 2 acids ( $\text{AcOH}$  and  $\text{PrCO}_2\text{H}$ ) the best results are obtained by the distn. method of Virtanen and Pulkki (*C. A.* 23, 82), and for that of 3 acids by detg.  $\text{HCO}_2\text{H}$  by the Fincke  $\text{HgCl}_2$  method (*C. A.* 7, 3083),  $\text{PrCO}_2\text{H}$  by the colorimetric method of Allgeier, Peterson and Fred (*C. A.* 23, 2392) and  $\text{AcOH}$  by the difference. Fifteen references. Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

110N 42M19

110N 42M19

110N 42M19

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<p>Determination of acetone, normal butanol and ethanol in mixtures. I. The oxidation method. M. N. Bekhtereva and N. D. Ierusalimskii. <i>J. Applied Chem.</i> (U. S. S. R.) 10, 1314-20 (in French 1320) (1937).—The oxidation method of Osborn and Werkmann for the detn. of EtOH and BuOH is expensive and complicated. The distn. method of Virtanen and Puikki (<i>C. A.</i> 23, 321) for the acid detn. yields good results. Me<sub>2</sub>CO was detd. by the Messinger and Goodwin method (<i>C. A.</i> 14, 1505). A modified method for the detn. of Me<sub>2</sub>CO, EtOH and BuOH in their mixts. is described. Forty-one references.</p> <p>A. A. Podgorny</p>																																																																																																																																																							
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**Determination of acetone, butanol and ethanol in their mixture. II. The salting-out method.** N. D. Jenušinskii and M. N. Bechtereva, *J. Applied Chem.*, 1958, S. S. R. U. 11, 529-530 in French (5451 USSR); cf. *C. A. J.* 52, 1612<sup>7</sup>. The Winstein and Rettig method (sepn. in layers and measurement of the vol. on satn. of the soln. with KOH) was found satisfactory. *C. A. J.* 52, 10080<sup>1</sup>. Fifteen references. A. A. Polygum

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<p>The connection between the acid formation and the development of acetic acid bacteria. <i>N. D. Kuznetsov. Bull. Microbiology (U. S. S. R.) 8, No. 2, 100-6 (1969). Khim. Referat. Zhur. 1939, No. 12, 30.</i> Only the normally developing cultures <i>Bact. 1941 aceti</i> cause oxidation of alc. The oxidative action is greatest in the period of the energetic multiplication and least in the state of rest. W. R. Henn</p>																																																			
<p>ASAC 56A METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

Ist MOSCOW STATE UNIV., CHAIR OF MICR., MOSCOW

IERUSALIMSKIY, N. D.

"Relation between the Formation of Acid and the Development of Acetic Bacteria",  
Mikrobiol, 8 No. 2, 1939. Ist Moscow State Univ., Chair of Micr., Moscow,  
-1939-.



1ST AND 2ND DEGREE		PROCESSING AND PROPERTIES INDEX	
<p>the physiology of metabolism in <i>Clostridium aceto-</i>  <i>butylicum</i>. 1. The composition of nitrogen sources as  a factor in the depression of the second phase of fermenta-  tion. N. D. Ierusalimskii. <i>Microbiology</i> (U. S. S. R.)  9, 154-76 (in English; 170-7) (1960); cf. C. A. 31, 3303.  In the first phase of acetone-butanol fermentation the bac-  teria reproduce rapidly and acids accumulate. In the  2nd phase bacterial growth is retarded and partial autolysis  ensues, whereby the basic fermentation products are  formed. The intensity of the first phase is linked with  the N sources in the substrate, i. e., with their amino acid  and growth-substance content, and their assimilability  by the bacteria. The intensity of the 2nd phase does not  always correspond with that of the first. The 2nd phase  is initiated by the appearance of bacteria with a new  enzymic system necessary for the formation of acetone  and alcs. This system occurs only in bacteria grown on  poorly assimilable N substrates with a low amt. of prote-  olyzates, or on an egg-albumin substrate. T. Laanes</p>		11 C	
<p>ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>			
<p>1ST AND 2ND DEGREE</p>		<p>1ST AND 2ND DEGREE</p>	

115

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Growth substances of microbes. Their nature and significance for microorganisms. N. D. Iegoshin-Lif. *Microbiology* (U. S. S. R.) 9, 740-78(1940). --A review. 216 references. T. Lianee

ASB-55A METALLURGICAL LITERATURE CLASSIFICATION

COMMON ELEMENTS										COMMON VARIABLES INDEX									
<p>11/1</p> <p>CA</p>										<p>PROCESSES AND PROPERTIES INDEX</p> <p>The physiology of metabolism of <i>Clostridium acetobutylicum</i>. II. Influence of pH of the medium on bacteria. N. D. Iermolinskii. <i>Microbiology</i> (U. S. S. R.) 11, 244-57 (1942) (English summary); cf. C. A. 35, 4840, 4870. — By using a method involving short fermentation periods, the pH of the medium remained nearly const. The optimal pH was between 5-5.1 and 6-6.3; min. 3.8-3.9, max. 7-7.2. Once development ceased because of unfavorable pH fermentation of sugar soon resumed. The formation of acetic and butyric acids is most rapid at pH 5-6, of acetone, butanol and ethanol at pH 4.2-5. Acidification of the substrate shifts the ratio of products of fermentation toward the solvent group. The increase of acetone production is greater than that of butanol production with lowered pH, though the ethanol is scarcely affected. In a young culture (4 hrs.) the yield of acetone is 10-15 times lower, and the yield of alcs. 4-6 times lower, than in a culture in the 2nd phase of fermentation (18-28 hrs.) at the same pH. The velocity of the fermentation as a whole is detd. by the ratio and velocity of the sep. biochem. processes. The optimal pH on the 4-hr. fermentation is 4.1-5.9; on the 18-19-hr., 4.6-5.3; on the 28-hr., 4.4-5.3. During the 1st stage of fermentation the acidity increases, during the 2nd phase the acidity shifts toward the optimal pH. 33 references.</p> <p>H. Levene Williams</p>									
<p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>										<p>ESOM-50M10V</p>									
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CA													<p>Physiology of the metabolism of <i>Ct. acetobutylicum</i>.</p> <p>III. Utilization of two-phase fermentation for decomposition of difficultly fermentable raw material (molasses). N. D. Ternitskiy and V. A. Semenova. <i>Microbiology</i> (U.S.S.R.) 13, 110-23 (in English, [24] (1944); cf. C.I., 39, 3314).—A mash contg. 8.1% corn meal and 4.5% beet molasses (I) ferments as well as one contg. 9% corn meal without I. A higher I content greatly lowers the yield of fermentation products (II). Since I contains considerable amts. of assimilable N sources, their excess increases bacterial growth and acid formation, but lowers the formation of II. Therefore, if it is desirable to utilize a larger amt. of molasses and insure normal yields of II, 20-50% of the I to be taken is added at the beginning and the rest at the 12th to 18th hr. of fermentation, during the period of max. acidity of the medium. Owing to the strong buffering capacity of I it is acidified before adding, to prevent a decrease in the yield of neutral products. The optimal concn. of I to be taken depends on the amino N content; the higher the latter the lower should be this concn. A mash contg. 4.5% corn meal and 6.2% I (added in 2 portions) of any type will insure normal fermentation.</p> <p>T. Laane</p>																																									
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IYERUSALIMSKII, H. D.

"Influence of Growth Substances on Acetone-Ethyl Bacteria, II. Relation of Bacteria to Biotine, Thiamine, and Paraaminobenzoic acid," Ibid, XIV, 6, 393-402, 1945

[illegible]

YERUSALIMSKIY, N. D.

"About the Physiological Stages in the Development of Bacteria," Mikrobiologiya,  
vol. 15, 1946, pp. 405-416. 448.3 M582

So: SIRA Si 90-53, 15 Dec. 1953

TYEMUSALIMSKY, N. D.

"Physiology of Nutrition of Thermophile and Mesophile Butyric Acid Bacteria," in  
Reports of the Scientific-Research Work for 1945, Department of Biological Science,  
Publishing House of the Academy of Science, USSR, Moscow, 1947, p. 136, 511 Ak 144

So: SIRA Si 90-53, 15 Dec. 1953

For observations on plant growth hormones, N. D.  
Gardner, *Hydroponics* 10, 235-71 (1947). A re-  
view with 170 references.

REVISED BIBLIOGRAPHICAL LITERATURE CLASSIFICATION

YERUSALIMSKIY N. D.

Vitaminii kompleks sredi i razvitiye mikrobov Vitamin complexes in bacterial culture media  
(a survey) Mikrobiologiya 1947, 13/1 (33-45) Graphs 2 Tables 3

4023 In a former survey of the literature on the chemical nature and biochemical action of substances which promote the growth of micro-organisms (Mikrobiologiya 1947, 16,3) the author pointed out that these substances in general belong to the vitamin B group, according to their chemical structure and physiological properties. They are used for the synthesis of co-enzymes and other important substances of the cells. In this article a survey is given of the literature on the connection between the vitamin-content of the medium and the growth of micro-organisms. Different aspects of the interaction of growth-promoting substances with certain enzymes are outlined and the author points out the possibilities of using the growth reaction of micro-organisms as a biological method for vitamin assays and outlines the scope for individual production of vitamins by the growth of certain micro-organisms. An extensive list of literature of 1940 to 1946 (171 numbers, mainly Anglo-American, with 15 Russian publications) is added.

Francke - The Hague (Sec. IV)

SO: Section II Vol. 1<sup>2</sup> No. 7-12

IERUSALIMSKIY, N. D.

PA 16T14

USSR/Medicine - Bacteria - Growth      Mar 1947  
Medicine - Bacteria - Culture

"New Data on the Nature of Growth - substances  
(Auxo-actives) for Microorganisms," N. D.  
Ierusalimskiy, 16 pp

"Mikrobiologiya" Vol XVI, No 3

Review of the literature in the field for the  
period 1940 - 1945, with a seven-page bibliography,  
mostly of English language articles.

16T14



YERUSALIMSKIY N. D. Vitaminii kompleks aredy i razvitye mikrobov Vitamin complexes in bacterial culture media (a survey) Mikrobiologiya, Moscow 1947, 16/4 (336-350)

In a former survey of the literature on the chemical nature and biochemical action of substances which promote the growth of micro-organisms (Mikrobiologiya 1947, 16/3) the author pointed out that these substances in general belong to the vitamin-B group, according to their chemical structure and physiological properties. They are used for the synthesis of co-enzymes and other important substances of the cells. In this article a survey is given of the literature on the connection between the vitamin-content of the medium and the growth of micro-organisms. Different aspects of the interaction of growth-promoting substances with certain enzymes are outlined and the author points out the possibilities of using the growth reaction of micro-organisms as a biological method for vitamin assays and outlines the scope for individual production of vitamins by the growth of certain micro-organisms. An extensive list of literature of 1940 to 1946 (171 numbers, mainly of Anglo-American origin, with 15 Russian publications) is added. Francke-The Hague

So: Medical Microbiology and Hygiene, Section IV, Vol. I, #1-6

"Growth Substances of Bacteria, Their Nature and Significance in the Life of  
Microorganisms, Ibid, 9, 7-8, 740-778, 1948

DA

11-C

Krusalimskii, N. D.: Azotnoe i Vitaminnoe Pitanie  
Mikrobov (Nitrogen and Vitamin Nutrition of Micro-  
organisms). Moscow: Izdatel'stvo Akad. Nauk S.S.S.R.  
1949. 164 pp.

IYERUSALIMSKIY, N.D.

"Nitrogenous and Vitamin Nutrition of Microbes" N.D. Iyerusalimskiy, edited by A.A. Imshenetskiy, Academy of Sciences USSR, Moscow/Leningrad, 1949 (New Chemical Books Published in the USSR)

SO: Uspekhi Khimii, Vol. XVIII, No.6, 1949; Vol. XLX, No.1, 1950  
W-10083

"Apropos of G. M. Bpsh'yan's Book 'On the Nature of Viruses and Microbes"

Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii, No 11, 1950, pp 76-79  
W-24635

USSR/Medicine, Biology - Microbiology

Oct 51

"Problem of the ontogenesis of Bacteria and Ways of Solving It," I. D. Yerusalimskiy, Inst of Microbiol, Acad Sci USSR

"Trudy Inst Mikrobiol" No 1, pp 5-43

Discusses status of the problem of the cycle of development of bacteria, the concept of ontogenesis in general biology, methods of studying the ontogenesis of bacteria, and examples of ontogenetic analysis. States that representatives of outlived schools either err by refusing to consider within the life cycle of bacteria modifications which form

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USSR/Medicine, Biology - Microbiology  
(Contd)

Oct 51

under the influence of the environment, or by including them in the life cycle, but assuming that the environment, acting as a nonspecific irritant, only releases innate possibilities. Many bacteria are adapted to several sets of conditions. They develop specific properties and characteristics under definite conditions which can be established by an ontogenetic analysis corresponding to T. D. Lyenko's "stage analysis."

209T80

YERUSALINSKIY, I. D.

Professor N. D. Yorusalimskiy - Institute of Microbiology, Academy of Sciences USSR,  
presented a paper devoted to the preservation of useful properties of microorganisms,  
once these properties had been developed. (ALL-UNION CONFERENCE OF THE DIRECTED  
MODIFICATION AND SELECTION OF MICROORGANISMS, Moscow, November 1951, #  
SO: Priroda, No.2, 1951  
W-22960

C. a.  
1951

Biological Chemistry  
11 Microbiology

Ontogenetic development of cultures of butyric acid bacteria. N. D. Ierusalimskii (Mikrobiol. Inst., Acad. Sci., Moscow). *Mikrobiologiya* 20, 205-10(1951).—Butyric acid bacteria pass through 4 life stages (embryo, growth, maturity, age). Maturity is reached early and held long. Deficiencies in vitamins or amino acids impede growth and all other aspects of development. Excess of sol. org. N compds. in the medium favors formation (apparently from reserve proteins) of cellular inclusions with a high refractive index.  
Julian P. Smith



CA

11C

The significance of trace elements to acetone ethanol bacteria. N. D. Jirassakuldech. Doklady Akad. Nauk S.S.S.R. 70, 913-15 (1951). -- Addn. of the following trace elements to the nutrient medium of the bacteria: B (as  $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$  1.2 mg./l.), Mn ( $\text{MnSO}_4 \cdot 4\text{H}_2\text{O}$  10.0), Mo (as  $\text{Na}_2\text{MoO}_4$  0.2), Cu (as  $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$  0.1), Fe (as  $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$  10.0), I (as KI 0.1), and NaCl (50.0), gave a better development than the nutrient mixt. alone or with addns. of thiamine and *p*-aminobenzoic acid. However, addn. of potato juice gave even better results: ashed potato juice had a somewhat weaker activity than fresh juice. Further study with doubly distd.  $\text{H}_2\text{O}$  showed that only 3 trace elements are necessary: Mn, Fe, and Mo, the latter being most effective.

G. M. K.

1951

IYERUSALIMSKIY, N.D. (Yerusalimskiy)

"Soviet Microbiology, A Science of Peace" by YERUSALIMSKIY, N. (Prof)  
SO: Literaturnaya Gazeta, 5 Apr 1952

IERUSALIMSKIY, N.D.; NERONOVA, N.M.; YARYGINA, N.P.

Effect of the conditions of the medium on physiological requirements  
of butyric acid bacteria. Trudy Inst. Mikrobiol., Akad. Nauk S.S.S.R.  
No2, 107-13 '52. (MLRA 5:12)  
(CA 47 no.15:7591 '53)

1. Moscow State Univ.

IERUSALIMSKIY, N.D.; ANISIMOVA, S.A.; EROKHINA, L.I.

Full-valued synthetic medium for acetone-ethanol bacteria. Trudy  
Inst. Mikrobiol., Akad. Nauk S.S.S.R. No.2, 114-20 '52. (MLRA 5:12)  
(CA 47 no.15:7591 '53)

1. Moscow State Univ.

CA

110

Role of thiamine in acetone formation by smooth and lacinate strains of *Bacillus acetobutylicus*. N. D. Ionu-schinski and L. M. Lur'e (Lomonosov State Univ., Moscow). *Mikrobiologiya* 21, 155-9 (1952). Chumak's smooth strain of *B. acetobutylicus* (C.A. 42, 349d) is a more active acetone former than his lacinate strain, the acetone yield of which is strongly influenced by thiamine concn. whereas that of the smooth strain is not. With both strains the influence of thiamine on EtOH formation is slight. In a mash contg. sugar (10 g./l.) the lacinate strain gave acetone yields of 0.82, 1.32, and 1.47 g./l. at thiamine concns. of 0.001, 0.1, and 10 mg./l., resp. Julian F. Smith

Microorganisms, . . .

Microorganisms

Controlled variability and selection of microorganisms.  
Vest. AN SSSR, 22, No. 1, 1952

9. Monthly List of Russian Accessions, Library of Congress, June 1958<sup>2</sup> Uncl.

USSR/Medicine, Biology - Microbiology Jan/Feb 52

"Directed Modification of Microorganisms (Results of the All-Union Conference at the Institute of Microbiology, Academy of Sciences USSR, November 1951," N. D. Yerusalskiy

"Uspekhi Sovrem Biol" Vol XXXIII, No 1, pp 148-152

[Presents largely information already given by A. Tschenetskii, "Med Rabotnik" Vol XV, No 2, 6 Jan 1952, and A. S. Krivskii, "Priroda" Vol XL, No 2, Feb 1952, pp 66-73, but discusses contents of papers read at the meeting from a somewhat different viewpoint.] Says that a number of participants (Kvasnikov, Kir'yalova, and others) reported upon

207T69

USSR/Medicine, Biology - Microbiology Jan/Feb 52  
(Contd)

effects of symbiotic and antagonistic influences on the modifiability of nonpathogenic bacteria and yeasts; that S. N. Muromisev, Berlava, Kaden, Rotmistrov, Fisher, and others presented papers on the transformation of bacteria into noncellular forms; that it has been decided to call meetings in order to discuss microbiol problems of species and species formation as well as of noncellular form of life.

207T69

YERUSALIMSKIY, N. D.

USSR/Biology - Microbiology

Card 1/1 : Pub. 124 - 17/24

Authors : Ierusalimskiy, N. D., Dr. of Biol. Sc.

Title : Technical microbiology in Czechoslovakia

Periodical : Vest. AN SSSR 11, 84-87, November 1954

Abstract : Progress report issued by the Institute of Biology of the Czechoslovakian Academy of Sciences on its work and achievements in the field of technical microbiology is presented.

Institution : .....

Submitted : .....



IERUSALIMSKIY, N.D.  
MISHUSTIN, Ye.N.; IERUSALIMSKIY, N.D.

Sixth International Congress of Microbiologists in Rome.  
Mikrobiologiya 23 no.1:125-128 Ja-F '54. (MLRA 7:2)  
(Microbiology--Congresses)

YERUSALIMSKII, N. I.

An Answer to G. P. Kalina's Article "Embryogenesis and Ontogenesis of Microbes,"  
Mikrobiologiya, Vol XXIII, No 2, 1954, pp 190-194.

Inst. of Microbiology, AS USSR

Translation M-601, 5 Jul 55

IYERUSALIMSKIY, N.D.; MISHUSTIN, Ye.N.

Results of the Rome Congress of Microbiologists. Usp.sovr.biol.  
37 no.1:127-132 Ja-F '54. (MLRA 7:2)  
(Rome--Microbiology--Congresses) (Congresses--Microbiology--Rome)

IYERUSALIMSKIY, N. D.

USSR/ Scientific Organization - Conferences

Card 1/1 : Pub. 86 - 8/40

Authors : Mishustin, E. N., and Iyerusalimskiy, N. D.

Title : At the International Congress of Microbiologists in Rome

Periodical : Priroda 43/4, 64-68, Apr 1954

Abstract : An account is given mainly of the sight-seeing and social features of the biological congress in Rome. It is noted, however, from papers read that outside of the Soviet Union the action of antibiotic substances is studied mainly from the viewpoint of curing diseases, overlooking their application in the industrial preservation of food.

Institution : .....

Submitted : .....

USSR/Microbiology - General Microbiology.

F-1

Abs Jour : Ref Zhur - Biol., No 4, 1958, 14619

Author : Ierusalimskiy, N.D., Rukina, E.A.

Inst : -

Title : Study of Spore Formation Conditions of Butyric Acid Bacteria with Aid of Colloidal Wrappers.

Orig Pub : Mikrobiologiya, 1956, 25, No 6, 649-658

Abstract : Cultivation of *Clostridium saccharobutiricum* in colloidal wrappers immersed in a definite medium made it possible to trace the dependence of different spore formation stages on changes in the medium. The accumulation of a large number of vegetative cells up to 3.5-7 billions was best on a rich nutrient medium with a yeast autolysate and peptone. To convert the vegetative cells into ripe pre-spore granulose-containing and clostridial forms, a favorable influence was exerted by transferring the cultures into a nitrogen-free medium with glucose and

Card 1/2

*INST. Microbiology, AS USSR*

Card 2/2

17  
YERUSALIMSKIY, N.D.; KOSIKOV, K.V.

Foreign research on adaptability of micro-organisms. Mikrobiologiya  
26 no.5:614-619 S-0 '57. (MIRA 10:12)  
(LONDON--MICROBIOLOGY--CONGRESSES)  
(ADAPTATION (BIOLOGY))

AUTHOR  
TITLE

30-7-11/36  
YERUSALIMSKIY, N.D., Doctor of biological sciences  
On the Symposium of the Adaptation of Microorganisms to Pharmaceutical Preparations in England  
(Simposium po adaptatsii mikroorganizmov k lekarstvennym veshchestvam v Anglii, Russian)

PERIODICAL

Vestnik Akademii Nauk SSSR, 1957, Vol 27, Nr 7, pp 58 - 61 (U.S.S.R.)

ABSTRACT

At the suggestion of the Society for Promotion of International Cooperation in the Field of Medical and Chemical Research the above-mentioned meeting took place in London from March 26 to 29. Representatives of the U.S.S.R. (from the Moscow Institute of Genetics) also participated in it. Already for years industrious scientific investigations were carried out on the biochemical and biological mechanism of adaptation of microorganisms to various conditions of existence. Their adaptability is extraordinary and varied. It was not until recently, however, that this adaptability was perceived to its full extent. Very many problems in this field are still to be solved. For this reason representatives of various research institutes also participated in the London meeting. In the 17 papers read and in the subsequent discussion two groups of research could be distinguished: The one made it its objective to investigate the causes of the power of resistance of the microbe cultures

Card 1/2

LOGOTKIN, Ivan Sergeyevich, kand. tekhn. nauk; IYERUSALIMSKIY, N.D., prof.,  
doktor biol. nauk, retsenzent; MALINKIN, S.G., inzh., retsenzent;  
MALCHENKO, A.L., prof., doktor tekhn. nauk, spetsred.; MASLOVA,  
S.F., red.; CHEBYSHEVA, Ye.A., tekhn. red.

[Technology of the manufacture of acetone and butyl alcohol]  
Tekhnologiya atsetono-butilovogo proizvodstva. Moskva, Pishche-  
promizdat, 1958. 266 p. (MIRA 11:10)  
(Acetone) (Butyl alcohol)



YERUSALIMSKIY, Nikolay A.

Institute of Microbiology, Academy of Sciences, USSR.

"The Needs for Cultivation of Bacteria Under Different Physiological Conditions."

paper presented at Seventh International Congress of Microbiology, Stockholm,  
Sweden, 4 - 9 Aug 1958.

YERUSALIMSKIY, N. D..

"The Conditions of Growth of Microorganisms; Some Theoretical Aspects,"

"A Study of the Process of Development of Microorganisms by the Continuous Flow and Exchange of Media Method,"

report submitted for the Symposium on Continuous Cultivation of Microorganisms, Czech. Acad. of Sci., Prague CSR, 23-28 June 1958.

YERUSALIMSKIY, N. D.

"Growth and Development of Bacteria on Current Media."

report submitted for the International Congress for Microbiology, Stockholm, Sweden,  
4-9 Aug 1958.

YERUSALIMSKIY N. D.

USSR / Microbiology. General Microbiology. Geological F  
Activity.

Abs Jour : Ref Zhur - Biologiya, No 6, 1959, No. 24020

Author : Kosikov, K. V.; Iyerusalimskiy, N. D.

Inst : Academy of Sciences USSR

Title : Symposium on the Mechanism of Development of  
Toxistability in Microorganisms in London

Orig Pub : Izv. AN SSSR, Ser. biol., 1958, No 1, 118-120

Abstract : No abstract given

Card 1/1

IYERUSALIMSKIY, N.D.

Principles underlying the control of vital activities of micro-organisms used in industry. Trudy Inst.mikrobiol. no.5:63-79  
'58 (MIRA 11:6)

1. Institut mikrobiologii AN SSSR.  
(MICRO-ORGANISMS--INDUSTRIAL APPLICATIONS)

17(2)

AUTHOR: Iyerusalimskiy, N. D., Doctor of  
Biological Sciences

SOV/30-53-11-14/48

TITLE: Symposium on the Continuous Cultivation of Micro-Organisms  
(Simpozium po nepreryvnomu kul'tivirovaniyu mikroorganizmov)

PERIODICAL: Vestnik Akademii nauk SSSR, 1956, Nr 11,  
pp 73 - 74 (USSR)

ABSTRACT: The symposium was organized by the Chekhoslovatskaya  
Akademiya nauk (Czechoslovak Academy of Sciences)  
and held in Prague from June 23 to 28. 119  
Czechoslovak and 30 foreign scientists participated  
in the meetings. The Soviet delegation consisted  
of N.D.Iyerusalimskiy, Ye. A. Plevako, M. Ya.Kalyuzhnyy,  
K.P. Andreyev, and N.S.Ternovskiy. I.Malek (Czechoslovakia),  
D. Gerbert, Ye.Pauel (both UK), A.Novik (USA), and  
N.D.Iyerusalimskiy (USSR) reported on general  
theoretical conditions for the cultivation of  
micro-organisms in flowing cultures. T.Kholme (Sweden),  
K.R.Batlin (UK), K.Beran, I.Kushka, I.Dir, Z.Frenzl,  
and M.Burger ( all of Czechoslovakia), K.P.Andreyev,

Card 1/2

Symposium on the Continuous Cultivation of Micro-Organisms

SOV/30-58-11-14/48

M.Ya.Kalyuzhnyy, Ye.A.Plevako, O.A.Bakushinskaya, N.A.Semikhatova (all of USSR) and others reported on the results obtained by the use of flowing cultures for solving some practical problems. Ya.Rzhichitsa (Czechoslovakia) reported on the technique of continuous cultivation of microbes under laboratory and practical conditions. At present, this method is being introduced in the commercial production of a series of micro-organisms which are used for different processes (production of alcohol, bread, yeast etc.)

Card 2/2

Yerusalimskiy, N.D.

KOSIKOV, K.V.; YERUSALIMSKIY, N.D.

Symposium on the development of resistance to poisonous substances  
in micro-organisms, held in London. Izv. AN SSSR Ser.biol. 23 no.1:  
118-120 Ja-F '58. (MIRA 11:1)

(LONDON--BACTERIOLOGY--CONGRESSES)  
(ADAPTATION (BIOLOGY))



IYERUSALIMSKIY, N.D., IMSHENETSKIY, A.A., KOSIKOV, K.V., KRASIL'NIKOV, N.A.  
RAUTENSHTEYN, Ya.I.

Matus Osharovich Streshinski; an obituary. Mikrobiologiya 27  
no.2:271 Mr-Apr '58 (MIRA 11:5)  
(STRESHINSKI, MATUS OSHAROVICH, 1912-1957)

17(2)

AUTHOR: Alferov, V. V.

SOV/30-59-2-48/60

TITLE: Continuous Fermentation and Breeding of Microorganisms  
(Neprieryvnoye brozheniye i vyrashchivaniye mikroorganizmov)

PERIODICAL: Vestnik Akademii nauk SSSR, 1959, Nr 2, pp 106-108 (USSR)

ABSTRACT: The Institut mikrobiologii Akademii nauk SSSR (Microbiological Institute of the Academy of Sciences, USSR) convened a conference from October 13 to 15, 1958 which dealt with the investigation of some working results in this field as well as with the discussion of a further intensification of the productions basing on the activity of microorganisms. The conference was attended by more than 200 representatives of academic and scientific branch research institutes, enterprises, sovmarkhozes, universities, as well as foreign scientists. The following lectures were heard:  
N. D. Iyerusalimskiy spoke of the theoretical foundation of the method of continuous microbe breeding and its prospects of application in the microbiological industry.  
Ye. A. Plevako, Vsesoyuznyy nauchno-issledovatel'skiy institut khlebopekarnoy promyshlennosti (All-Union Scientific Research

Card 1/4

Continuous Fermentation and Breeding of Microorganisms , SOV/30-59-2-48/60

Institute of Bread-Production Industry) dealt with the problem of the breeding of yeast in solutions containing molasses. P. N. Fisher, K. P. Andreyev, V. A. Utenkova, M. Ya. Kalyuzhnyy and A. P. Kryuchkova, Vsesoyuznyy nauchno-issledovatel'skiy institut gidroliznoy i sul'fitno-spirovoy promyshlennosti (All-Union Scientific Research Institute for the Industry of Hydrolysis and Sulfite Spirits) evaluated the theoretical and practical work in the field of continuous fermentation of wood hydrolyzates and sulfite liquor as well as their utilization for obtaining fodder yeast.

V. I. Morozova, Krasnoyarskiy gidroliznyy zavod (Krasnoyarsk Hydrolysis Plant) said that the introduction and completion of the continuous process of yeast breeding made it possible to increase the output of yeast factories by ten times.

V. L. Yarovenko, A. L. Malchenko, Vsesoyuznyy nauchno-issledovatel'skiy institut spirovoy i likero-vodochnoy promyshlennosti (All-Union Scientific Research Institute of the Spirit, Liqueur and Brandy Industry), V. M. Nakhmanovich, Dokshuninskaya nauchno-issledovatel'skaya laboratoriya (Dokshuninskaya Scientific Research Laboratory) reported on the experiment of applying the method of continuous fermentation

Card 2/4

Continuous Fermentation and Breeding of Microorganisms SOV/30-59-2-48/60

of the starchy raw material and syrup in the alcohol and acetone-butanol industry.

S. A. Konovalov, All-Union Scientific Research Institute of the Alcohol, Liqueur and Brandy Industry reported on the problem of antiseptics in fighting infection due to ferments. L. Yu. Medvinskaya, Institut mikrobiologii Akademii nauk USSR (Microbiological Institute of the AS UkrSSR) reported on the investigation of the morphological and physiological properties of yeast.

A. D. Kovalenko, Andrushevskiy spirtovoy zavod (Andrushevka Distillery), N. Ya. Savchenko, Malo-Viskovskiy spirtovoy zavod (Malo-Viskovskiy Alcohol-Distillery), S. P. Makarova, Smolenskiy Sovnarkhoz (Smolensk Sovnarkhoz) reported on some working results obtained by distilleries in the syrup fermentation by using the method of continuous flow.

M. S. Loytsyanskaya, Leningradskiy universitet (Leningrad University) characterized the correlation of reproduction processes and biochemical activity of acetic acid bacteria in the high-speed production of vinegar.

N. M. Neronova, Microbiological Institute of the AS USSR spoke of the possibility of obtaining vitamin B<sub>12</sub> by

Card 3/4

IYERUSALIMSKIY, N.D.

Features of the growth and development of micro-organisms. Trudy  
Inst. mikrobiol. no. 6:20-37 '59. (MIRA 13:10)

1. Institut mikrobiologii AN SSSR.  
(BACTERIA)

IYERUSALIMSKIY, N.D.

Theory and practice of the continuous cultivation of micro-organisms;  
material from the symposium in Prague. Mikrobiologiya 28 no.1:152-155  
Ja-F '59. (MIRA 12:3)

(BACTERIOLOGY--CULTURE AND CULTURE MEDIA)

IYERUSALIMSKIY, N.D.; KONOVA, I.V.; NERONOVA, N.M.

Determining vitamins and antibiotics by diffusion into agar. Report  
No. 1: Simplified computations for the dish method. Mikrobiologiya  
28 no.3:433-443 My-Je '59. (MIRA 13:3)

1. Institut mikrobiologii AN SSSR.  
    (VITAMINS, determ.  
      simplified computations for cup method (Rus))  
    (ANTIBIOTICS, determ.  
      same)

KONOVA, I.V.; NERONOVA, N.M.; IYERUSALIMSKIY, N.D.; BORISOVA, A.I.

Determining vitamins and antibiotics by diffusion into agar. Report  
No.2: Quantitative determination of vitamin B<sub>12</sub> and its derivatives  
by paper chromatography. Mikrobiologiya 28 no.4:490-494 J1-Ag '59.  
(MIRA 12:12)

1. Institut mikrobiologii AN SSSR.  
(VITAMIN B<sub>12</sub> chem.)  
(ESCHERICHIA COLI)



NERONOV, N.M.; IYERUSALIMSKIY, N.D.

Continuous cultivation of Propionibacterium producing vitamin B<sub>12</sub>.  
Mikrobiologiya 28 no.5:647-654 S-O '59. (MIRA<sup>12</sup>:2)

1. Institut mikrobiologii AN SSSR.  
(PROPIONIBACTERIUM culture)  
(VITAMIN B<sub>12</sub> metab.)

IYERUSALIMSKIY, N.D.; HUKINA, Ye.A.

Studying the conditions promoting sporulation in bacteria by the  
method of continuous flow microcultures. Mikrobiologiya 28 no.6:  
801-806 N-D '59. (MIRA 13:4)

1. Institut mikrobiologii AN SSSR.  
(BACTERIA, culture)

IYERUSALIMSKIY, N.D.

."Methods of Continuous Flow Cultures as Used in Various Production Processes."

presented at the 1st Intl Fermentation Symposium, Rome, Italy, 9-14 May 60.

Microbiological Institute, USSR Acad. of Sci.

IYERUSALIMSKIY, N.D., prof., red.; KOVALEVSKAYA, A.I., red.; SOKOLOVA,  
I.A., tekhn.red.

[Continuous fermentation and raising of micro-organisms; materials of the conference held by the Institute of Microbiology of the Academy of Sciences of the U.S.S.R.] Nepreryvnoe brozhenie i vyrashchivanie mikroorganizmov; materialy soveshchaniia, provedennogo Institutom mikrobiologii AN SSSR. Pod red. N.D.Ierusalinskogo. Moskva, Pishchepromizdat, 1960. 127 p.

(MIRA 14:1)

1. Soveshchaniye po nepreryvnomu brozheniyu i vyrashchivaniyu mikroorganizmov. 1958.

(Industrial microbiology--Congresses)

IYERUSALIMSKIY, N.D.; YEGOROVA, L.A.

Relation of *Bacillus megatherium* to the conditions of the culture medium in the course of its life cycle. Mikrobiologiya 29 no.3: 323-328 My-Je '60. (MIRA 13:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.  
(BACILLUS MEGATHERIUM)  
(BACTERIOLOGY—CULTURES AND CULTURE MEDIA)

IYERUSALIMSKIY, M.D.

First International Symposium on Fermentation. Vest.AN SSSR  
30 no.11: N '60. (MIRA 13:11)

1. Chlen-korrespondent AN SSSR.  
(Fermentation)

✓  
IYERUSALIMSKIY, N.D.; KONOVA, I.V.; NERONOVA, N.M.; ANCHUROVA, A.I.

Determination of vitamin B<sub>12</sub> by the bioautographic method. Vit.  
res. i ikh isp. no.5:119-132 '61. (MIRA 15:1)

1. Institut mikrobiologii AN SSSR, Moskva.  
(CYANOCOBALAMINE) (BIOLOGICAL ASSAY)

KONOVA, I.V.; FATEYEVA, M.V.; YERUSALIMSKIY, N.D.

First International Symposium in Italy. Mikrobiologiya 30 no.2:  
371-374 Mr-Apr '61. (MIRA 14:6)  
(FERMENTATION—CONGRESSES)



IYERUSALIMSKIY, N. D.

"Physiology and biochemistry of microbes" by Jiri Starka. Reviewed  
by N. D. Ierusalinskii. Mikrobiologiya 30 no.3:566-567 My-Je '61.  
(MIRA 15:7)

(MICROBIOLOGY) (BIOCHEMISTRY) (STARKA, JIRI)

IYERUSALIMSKIY, N.D.

Theory and practice of the continuous cultivation of micro-organisms.  
Mikrobiologiya 30 no.5:818-824 3-0 '61. (MIRA 14:12)

1. Institut mikrobiologii AN SSSR.  
(BACTERIOLOGY--CULTURES AND CULTURE MEDIA)

IYERUSALIMSKIY, N.D., GRISHANKOVA, YE.A., SHEVCHENKO, L.F.

Effect of streptomycin on metabolism in microbes.  
Report submitted to the Intl. congress for Microbiology

Montreal, Canada      19-25 Aug 1962

IYERUSALIMSKIY, N.D.; SHAFOROSTOVA, L.D.

Changes in the biosynthesis of vitamin B<sub>12</sub> and p-aminobenzoic acid in *Bacillus megaterium* due to the effect of adaptation to norsulfazole. Dokl. AN SSSR 142 no.5:1176-1179 F '62.

(MIRA 15:2)

1. Chlen-korrespondent AN SSSR (for Iyerusalimskiy).

(SULFATHIAZOLE)

(BENZOIC ACID)

(CYANOCOBALAMINE)

(BACILLUS MEGATERIUM)

IYERUSALIMSKIY, N.D.

Use of the continuous culture method in physiological investigation of the cells of microbes and other organisms. Izv. AN SSSR. Ser. biol. no.3:418-429 My-Je '62. (MIRA 15:6)

1. Institute of Microbiology, Academy of Sciences of the U.S.S.R., Moscow.

(BACTERIOLOGY—CULTURES AND CULTURE MEDIA)  
(TISSUE CULTURE)

IYERUSALIMSKIY, N.D.; ZAYTSEVA, G.N.; KHMEL', I.A.

Studying the physiology of *Azotobacter vinelandii* under conditions of a continuous flow culture. *Mikrobiologiya* 31 no.3:417-423 My-Je '62. (MIRA 15:12)

1. Institut mikrobiologii AN SSSR i Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni Lomonosova.

(AZOTOBACTER)

IYERUSALIMSKIY, N.D.; GRISHANKOVA, Ye.V.; SHEVCHENKO, L.A.

Change in the physiological requirements of *Bacillus idosus*  
under the action of streptomycin. Mikrobiologiya 31 no.6:995-  
1001 N-D '62. (MIRA 1613)

1. Institut mikrobiologii AN SSSR.  
(STREPTOMYCIN) (BACTERIA, SPOREFORMING)

IYERUSALIMSKIY, N.D.

Method of continuous flow cultures and its significance for the  
analysis of cellular functions. Vest. AN SSSR 32 no.3:40-45  
Mr '62. (MIRA 15:2)

1. Chlen-korrespondent AN SSSR.  
(Tissue culture)  
(Bacteriology--Cultures and culture media)



IYERUSALIMSKIY, N.D.; RUBAN, Ye.L., red.; AVDUSINA, Ye.I., red.  
izd-va; KISELEVA, A.A., tekhn. red.; POLYAKOVA, T.V.,  
tekhn. red.

[Principles of the physiology of microbes] Osnovy fiziologii  
mikrobov. Moskva, Izd-vo AN SSSR, 1963. 145 p.  
(MIRA 17:1)

\*

IYERUSALIMSKIY, N.D.; SHEVCHENKO, L.A.; GRISHANKOVA, Ye.V.

Change in some physiological requirements of yeasts as a result of adaptation to streptomycin. Mikrobiologiya 32 no.1: 13-16 '63 (MIRA 17:3)

1. Biologo-pochvennyy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni Lomonosova.

LYERUSALIMSKIY, N. D.

"Factors determining the steady-state in continuous culture of micro-organisms."

report submitted for 2nd Intl Fermentation Symp, London, 13-17 Apr 64.

L 23540-66 EWP(j)/EWT(m)/T RM/DJ/WE

ACC NR: AP6013987

SOURCE CODE: UR/0216/65/000/001/0053/0057

AUTHOR: Iyerusalimskiy, N. D.—Lerusalimsky, N. D.; Skryabin, G. K. 46

ORG: Institute of Biochemistry and Physiology of Microorganisms, AN SSSR (Institut  
biokhimi i fiziologii mikroorganizmov AN SSSR) B

TITLE: Problems of the microbiology of hydrocarbons

SOURCE: AN SSSR. Izvestiya. Seriya biologicheskaya, no. 1, 1965, 53-57

TOPIC TAGS: hydrocarbon, fungus, yeast, bacteria, oxidation, cytology, plant chemistry

ABSTRACT: The problem of research in the microbiology of hydrocarbons can be subdivided into four categories: 1) relation between taxonomic standing of microorganisms and their ability to assimilate hydrocarbons; 2) ecological and adaptive-physiological premises for this ability; 3) enzymology and chemistry of the oxidation of hydrocarbons; 4) cytological and cytochemical premises for this process. The authors describe the results of a corresponding four-stage investigation. During the first stage, approximately 2,000 cultures of fungi, yeasts, bacteria, and actinomycetes were grown on media containing liquid paraffins of the normal series and it was found that the ability to assimilate hydrocarbons is in fairly good agreement with taxonomic position. During the second stage of the investigation, some 1,000 cultures of microorganisms were collected from appropriate natural habitats.

Card 1/2

UDC: 576.8: 547.912 2

L 23540-66

ACC NR: AP6013987

(sludge of petrochemical enterprises, petroleum-impregnated soil) and their taxonomic positions were found to agree with the first stage of investigations. By means of continuous culturing on media with increasing concentrations of phenol, cultures of microorganisms capable of withstanding phenol concentrations of as much as 1,000 mg/liter of medium have been obtained. During the third stage of oxidizing activity of microorganisms was investigated, confirming the previous findings that paraffins of the normal series oxidize more readily than iso-compounds. Much remains to be clarified regarding the cytology and cytochemistry of the oxidation of hydrocarbons, particularly with respect to the chemical composition of the products of the primary processing of hydrocarbons and their localization in cell structures, as well as the localization of the enzymes responsible for the oxidation of hydrocarbons. [JPRS]

SUB CODE: 06 / SUBM DATE: 25Sep64 / ORIG REF: 005 / OTH REF: 011

Card 2/2

20

L 36092-66 EWT(m)/T WE

ACC NR: AP6015206

(A)

SOURCE CODE: UR/0411/65/001/002/0163/0166

AUTHORS: Iyerusalimskiy, N. D.; Andreyeva, Ye. A.; Grishankova, Ye. L.; Golovlev, Ye. L.; Dorokhov, V. V.; Zhukova, L. N.

53

ORG: Institute of Microbiology, Academy of Sciences, SSSR, Moscow (Institut mikrobiologii Akademii nauk SSSR)

B

TITLE: A study of the microflora of sewage of petroleum refineries

SOURCE: Prikladnaya biokhimiya i mikrobiologiya, v. 1, no. 2, 1965, 163-166

TOPIC TAGS: bacteria, fuel microorganism, industrial waste, petroleum refining, yeast, aromatic hydrocarbon, diesel fuel, kerosene

ABSTRACT: The results of a study of active slime from petroleum refineries are given. Active slimes from waste phenolic water and from oil traps (purified of petroleum by six-fold extraction by benzene) were studied. Recent and old slimes from oil refinery No. 4 and a sample of slime from the trap of No. 4 were also studied. The specimens were kept in the active state in Sengen's medium at pH 7. From the slimes, 575 cultures were extracted, and 145 other cultures were extracted from similar sources. The mycobacteria were 44%, the bacteria 28%, and yeast 26%. All the bacteria were gram-negative nonspore-forming. They were represented mostly by Pseudomonas and Achromobacter. The yeasts were Candida and Torulopsis. All of the extracted microorganisms grew well in pure kerosene, pure paraffin, diesel-fuel distillate, and

Card 1/2

INDC: 622.35+613.663

LS

IYERUSALIMSKIY, N.D.; ANDREYEVA, Ye.A.; LIROVA, S.A.; YERMAKOVA, I.T.

Hydrocarbon oxidation by yeast. Prikl. biokhim. i mikrobiol.  
1 no. 6:601-605 N-D '65. (MIRA 18:12)

1. Institut mikrobiologii AN SSSR. Submitted Jan. 16, 1965.

CHERNAVSKIY, D.S.; IYERUSALIMSKIY, N.D.

Determinative link in the system of enzyme reactions. Izv. AN  
SSSR. Ser. biol. no. 5:666-676 SMO '65. (MIRA 18:9)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR i Institut  
mikrobiologii AN SSSR.



LYERUS, LIMSKIY, N.D.; SKRYABIN, G.K.

Problems of the microbiology of hydrocarbons. Izv. AN SSSR Ser.  
biol. 30 no.1:53-57 Ja-F '65. (MIRA 18:2)

1. Institute of Biochemistry and Physiology of Microorganisms of  
the Academy of Sciences of U.S.S.R.

L 23373-66 ENT(1)/T JK

ACC NR: AP6014018

SOURCE CODE: UR/0220/65/034/001/0073/0078

AUTHOR: Iyerusalimskiy, N. D.--Ierusalimsky, N. D.; Shaforostova, L. D.;  
Balashov, V. I.

ORG: Institute of Microbiology, AN SSSR (Institut mikrobiologii AN SSSR)

TITLE: New principle for regulating the composition of media used in continuous culturing of microorganisms

SOURCE: Mikrobiologiya, v. 34, no. 1, 1965, 73-78

TOPIC TAGS: microbiology, cell physiology

ABSTRACT: In flow-type apparatuses based on the chemostat principle, sooner or later a dynamic equilibrium is established between the multiplication of cells and loss thereof in the liquid flowing out. The population and growth rate of the cells, their morphophysiological properties, and composition of the culture fluid become stabilized at some constant level. Any change in the flow rate entails a change in the composition of the medium. Yet for precise physiological investigations it is important to be able to vary only individual external factors, leaving the others unchanged. To achieve this purpose, the authors proposed a new device (here described in detail and illustrated) permitting independent regulation of the amount of several solutions making up the medium. It worked efficiently in continuous culturing of *Bac. megatherium* for 2½ months in a medium consisting of glucose, NaCl, MgSO<sub>4</sub>, K<sub>2</sub>HPO<sub>4</sub>, sodium citrate, ammonium succinate, NH<sub>4</sub>Cl, CaCl<sub>2</sub>, K<sub>2</sub>SO<sub>4</sub>, and

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UDC: 576.8.093.1

L 23373-66

ACC NR: AP6014018

tap water. The flow rate was maintained throughout at the prescribed level. Such indices of the process as optic density of the culture and content of residual nitrogen and sugar in the culture fluid remained stable at each flow rate. The pH was virtually unchanged. Orig. art. has: 1 figure and 2 tables. [JPRS]

SUB CODE: 06 / SUBM DATE: 01Feb64 / ORIG REF: 002

Card 2/2

*So*

KHMEI', I.A.; GABINSKAYA, K.N.; IYERUSALIMSKIY, N.D.

Growth and nitrogen fixation by *Azotobacter vinelandii* under  
different aeration conditions. Mikrobiologiya 34 no.4:689-694  
Jl-Ag '65. (MIRA 18:10)

1. Institut mikrobiologii AN SSSR.

IYERUSALIMSKIY, N.D.

Theoretical and industrial aspects of microbiological synthesis.  
Vest. AN SSSR 35 no.4:42-50 Ap '65. (HIRA 18:6)

1. Chlen-korrespondent AN SSSR.

IYERUSALIMSKIY, N.D.; MERONOVA, N.M.

Quantitative relationship between the concentration of exchange products and the growth rate in micro-organisms. Dokl. AN SSSR 161 no.6:1437-1440 Ap '65. (MIRA 18:5)

1. Calen-korrespondent AN SSSR (for Iyerusalimskiy).

L 2676-66 ENT(1)/EWA(j)/EWA(b)-2 JK

ACCESSION NR: AP5021288

UR/0020/65/163/005/1266/1269

AUTHOR: Stenanova, N. V.<sup>65</sup>; Romanovskiy, Yu. M.<sup>56</sup>; Iyerusalimskiy, N. D.<sup>66</sup> (Corresponding member AN SSSR)

TITLE: Mathematical model of the growth of microorganisms in a continuous culture 47  
43  
B

SOURCE: AN SSSR. Doklady, v. 163, no. 5, 1965, 1266-1269

TOPIC TAGS: bacteriology, mathematic model, differential equation, oscillograph

ABSTRACT: Tests with continuous cultures have shown that the basic features of biomass growth may be described knowing only the following values: concentration of the culture medium at its minimum, concentration of the inhibitor affecting the minimal rate in the biochemical order of reactions, and concentration of the biomass. The mathematical task thus consists of constructing and studying systems of kinetic differential equations, and the values of the coefficients in such systems may be obtained from the test itself. A model was constructed based on Propionibacterium shermanii grown in a culture medium with lactate as the carbon source. Given was the

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ACCESSION NR: AP5021288

culture medium concentration  $S_0$  entering the cultivator at rate  $F$ . The mixture of nonreacted lactate, biomass and fermentation products left the container at the same rate. The dilution coefficient  $D = F/V$  characterizes the washing out of the biomass from the cultivator ( $V$  is the volume of the cultivator). The rate of change of concentration  $X$  of the biomass in the cultivator is expressed by the equation

$$dX/dt = -DX + \mu X. \quad (1)$$

where  $\mu$  is the specific rate of growth, a nonlinear function of  $S$  which also depends on the concentration of  $P$ , one of the fermentation products (propionate). This formula is further developed to arrive at a system of equations which connects concentration of the biomass, culture medium, products of vital activity and their derivatives. Curves plotted on the basis of these equations closely approximated experimental curves. For the study of transitory processes appearing with a change in system parameters, a solution of the above system of nonlinear equations was required, and was obtained using an electron model. Processes of adjustment in the system may be determined with an oscillograph with photo attachment. The oscillograms

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ACCESSION NR: AP5021288

explain to a certain extent the nature of equilibrium stability. H  
Further refinement of this method, including more accurate coefficients and introduction of factors characterizing bacterial inertia, will permit a more thorough study of the system's behavior and of biomass growth problems. Orig. art. has: 3 figures and 9 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University), Institut mikrobiologii Akademii nauk SSSR (Microbiology Institute, Academy of Sciences, SSSR) 55

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ACC NR: AP6033914

SOURCE CODE: UR/0220/66/035/005/0920/0922

AUTHOR: Iyerusalimskiy, N. D.; Yeroshin, V. K.

19  
3

ORG: none

TITLE: Report of the symposium on microbial<sup>b</sup> physiology<sup>b</sup> and noncontinuous culture methods

SOURCE: Mikrobiologiya, v. 35, no. 5, 1966, 920-922.

TOPIC TAGS: biologic conference, microbiology, microbe physiology, laboratory method, biologic metabolism

ABSTRACT: An international symposium on microbial physiology and non-continuous culture methods was held in Porton, England from 28 March to 1 April 1966. Fourteen participants including N. D. Iyerusalimskiy and V. K. Yeroshin from the SSSR were present. Subjects discussed included factors limiting growth under culture conditions, utilization of carbon sources, and respiration and metabolism *in vitro*. [W.A. 50]

SUB CODE: 06/ SUBM DATE: none

Card 1/1 nst

**Fig. 1. Delivery rate**

Seaboard Terminal, Inc. 16  
Chemistry Facility, 6  
Nile, 1997. 291 p. 350 copies printed.

Eds.---(Title page): A. F. Iversen, Ph.D., Professor, Doctor of Chemistry; L. K. Leppla, Ph.D., Professor, Doctor of Chemistry; S. G. Professor, Doctor of Chemistry.

Member of the Academy of Sciences, corresponding member of the Academy of Sciences, Professor, Doctor of Chemistry, Tech. Sci. A. Petersen  
Chemistry; O.Ya. Vasya, Professor, Doctor of Chemistry, Tech. Sci.

**PURPOSE:** This book is intended for inorganic chemists and scientists in the various industries.

CONTENTS: The book contains 22 articles on organic chemical syntheses and analyses and the physicochemical properties and compositions of ceramics and refractory materials. No personalization are mentioned. Figures, tables and references accompany the articles.

2. Yakovlev, A. I. 1931, and E. G. Gorkovets. The Use of Sodium Tetraphenylborate in Quantitative Analysis

3. ~~Reaction~~ Reaction of Aluminum Oxide Hydrate and V-Alumina. The presence of

6. Halvors, T.O.R. Resistance of the Boundary Layer, Electrode Potential, and the Corrosion of Aluminum in Aluminum Sulfate Solutions 2

5. Tenne, G. Y. Allyls as a Reagent for Qualitative Determination of Aromatic Nitro Compounds 3

6. Yang, C.-T., and A.R. Levy. The interaction of 2-Bromo-2-pyridyl-1, 3-dimethylololone with plant tissues.

7. Ruslan, I. A. On the Predicted Mechanism of the Alkylation of Naphthalene and Its Derivatives with Alcohol Vapor in a Hot Catalyst

8. Gutknecht, E. K. and G. Villers. Study of Uramic Acid and its

9. <sup>3</sup>Grisham, V., and E. J. Grisham. The Concentration of Phytochemicals of Perennial Plants and Their Effect on Insects on Pasture.

10. Epstein, Y. J. and J. L. Glickman. The Problem of Preliminary Erythrocyte

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11. <u>Stebble, J.</u> Properties of Typical Clays at the Latician 255	99
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15. Yasuniyevets, A. I., and T. G. Lyul'. Properties of Some Casts, Lead- and Ice-Loaded and Ice-Loaded Glasses for Structural Ceramics, 167

16. Frederick, E. S., and T. A. Sigmund. The Possibility of Using  
Neonous Quinartz Algs for the Production of Binding Substances 173

17. <sup>1</sup>Pyral, Yu. Ya. Barriers of the Setting Period of Oxygen Calculated at Low Temperatures

18. Mohshteyn, O.L. The Interaction of a Fireclay Refractory With a Fluorine-Containing Glass Batch 702

19. <sup>8</sup>Freysenfeld, E. M., and *Adams*. Physicochemical Properties of Compositions of the System  $\text{CaF}_2\text{-SiO}_2\text{-TiO}_2$ .

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20. Gosselink, J., and J. Eklund. The Role of Magnesium Oxide in the Pro-  
cesses of Alkaline Degradation of Cellulose. *Cellulose Chemistry and Technology* 1982, 16: 1-10.

31. <sup>1</sup> Rybak, Yu. Ia. <sup>2</sup> P. G. Puzish and O. S. Yakimova. The Influence of Scattering of Ultraviolet Light from Colloidal Line

22. Ryuk, Yu. Ia., V. G. Borne, L. A. Spura. The Physicochemical Properties of Technical PVC in the Presence of Enamel Coatings on Cast Iron. *Plast. Mass.* 1971, No. 1, p. 221.

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KASHKAY, M.-A.; SELIMKHANOV, I.R.; IYESSEN, A.A., red.; VISHNEVETSKAYA,  
I.A., red.izd-va; AKHMEDOV, S., tekhn.red.

[Analyzing metal articles of ancient Mingechaur dating to the  
era of developed bronze] Issledovanie metallicheskih izdelii  
drevnego Mingechaura epokhi razvitoi bronzy. Baku, Izd-vo  
Azerbaidzhanskogo univ., 1959. 45 p. (MIRA 13:4)  
(Mingechaur--Bronze age) (Bronze analysis)